

CLAIMS

What is claimed is:

1 1. A method for controlling a powertrain in a motor vehicle
2 having a first torque source and a second torque source each providing a torque
3 output to a transmission, the method comprising:
4 determining a vehicle speed and a current gear selection of the
5 motor vehicle;
6 calculating a threshold value from the vehicle speed and the current
7 gear selection;
8 determining a accelerator position of the motor vehicle;
9 calculating a accelerator position rate of change from the
10 accelerator position;
11 comparing the accelerator position rate of change to the threshold
12 value;
13 increasing the torque output from the first torque source if the
14 accelerator position rate of change is less than the threshold value; and
15 downshifting the transmission if the accelerator position rate of
16 change is greater than the threshold value.

1 2. The method of claim 1, wherein determining the vehicle
2 speed and current gear selection includes reading a vehicle speed sensor and a
3 gear selection sensor in the motor vehicle.

1 3. The method of claim 1, wherein determining a accelerator
2 position includes reading a accelerator sensor in the motor vehicle.

1 4. The method of claim 1, further comprising synchronizing the
2 second torque source to the first torque source if the first torque source is at full
3 torque and the accelerator position rate of change is less than the threshold
4 value.

1 5. The method of claim 1, wherein calculating the threshold
2 value further includes analyzing engine total hours of operation, current operating
3 efficiency, usage of the accelerator, air conditioning utilization, and auxiliary
4 power requirements.